

National Transportation Safety Board

Office of Highway Safety

Washington, DC 20594



HWY22MH009

HUMAN PERFORMANCE

Group Chair's Factual Report

October 6, 2022

A. CRASH

Location: Clarendon Hills, IL
Date: May 11, 2022
Time: 0816 a.m. CDT

B. HUMAN PERFORMANCE GROUP

Group Chair	Kenneth Bragg NTSB, Office of Highway Safety Washington, DC
Group Member	Detective Steven Alvarado Metra Police Department Chicago, IL

C. SUMMARY

For a summary of the crash refer to the Crash Summary Report, which can be found in the NTSB docket for this investigation.

D. DETAILS OF THE INVESTIGATION

1.0 Introduction

The human factors investigation focused on the behavioral, medical, operational, and environmental factors associated with the 54-year-old driver of the 2004 International 4400 truck, hereafter referred to as the truck driver.

Several sources of information were considered to identify factors relevant to the truck driver's performance in this crash. Historical driver's license and crash history records were obtained to establish his overall level of driving experience. Cell phone records were obtained to identify the truck driver's activities and sleep opportunity prior to the crash. Employment records were obtained to identify his level of professional driving experience. Medical records were obtained to establish the truck driver's physical condition before the crash. Lastly, NTSB staff interviewed the truck driver to obtain further details about his observations and actions leading up to the crash. The information obtained in this investigation is discussed in the sections below.

1.1. Licensing

At the time of the crash, the truck driver held an Illinois Class C noncommercial driver's license.¹ The license was issued on November 15, 2017, with an expiration date on the driver's birthday in 2022.² The truck driver first obtained his Illinois driver's license in 2004. Prior to that, he stated that he held a California driver's license. However, no information was found in the California driver's license registry.

The crash truck had a 33,000-pound gross vehicle weight rating (GVWR) and was equipped with air brakes and a manual transmission. According to Illinois Traffic Law, a Class B Commercial Driver's License is required to operate a single vehicle in commerce with a GVWR exceeding 26,000 pounds. Additionally, the operator of a vehicle equipped with an air brake system or a manual transmission, must complete the driving test using a similarly equipped vehicle.

1.1.1 License and Crash History

A review of the truck driver's Illinois driving history showed no traffic violations or license suspensions. In an interview with NTSB investigators, the truck driver stated that he received a traffic citation for excessive speed about ten years ago. However, because of traffic violation retention limitations, the violation does not appear on his current driving record.³

An automobile insurance industry database indicates that the truck driver was previously involved in a crash in Illinois on March 19, 1997. The crash involved two vehicles and resulted in injury. The database does not indicate the circumstances of the crash. Because of record retention limits, the crash report was unavailable.

1.1.2 Experience

The truck driver stated that he first obtained his driver's license when he was 18 years old in his native country, Yugoslavia. According to the driver, he has been licensed in the United States for about 30 years. However, this claim could not be substantiated. He stated that he began driving non-CDL trucks in California in 2000. Since that time, he has held several jobs driving moving trucks. He began working for the crash carrier in 2017 as a helper. Sometime in 2018, he transitioned to a driving position. He has worked as a driver continuously since that time. According to the truck driver, he has never held a CDL.

¹ A holder of an Illinois class C license may operate any motor vehicle with a GVWR of more than 16,000 pounds, but less than 26,001 pounds or any such vehicle towing another not in excess of 10,000 pounds.

² Human Performance Attachment - Truck Driver's License History

³ Moving violations remain on Illinois driving records for four or five years from the date of conviction; drug or alcohol offenses remain indefinitely. Available at: <https://www.ilsos.gov/departments/drivers/faq.html> obtained 10-3-2022.

1.1.3 Training

The truck driver stated during an interview that he first learned how to drive a truck in 1985 while serving in the Yugoslavian military. The training program was about three weeks long. However, there are no records of the training program. The truck driver has not undergone a formal training program since coming to the United States. The carrier had not provided any driver safety training since he has been employed there.⁴

1.1.4 Route Experience

The crash trip was about two miles from the carrier's base. While the truck driver does not have a dedicated route, he had traversed the grade crossing previously. Additionally, there is a similar protected grade crossing about a half mile from the carrier's base and the driver traversed it daily.

1.2 Activities Prior to the Crash

Preliminary information about the truck driver's activities in the days leading up to the crash were obtained from an interview with the driver⁵, time and attendance records from his employer⁶ and the truck driver's cell phone records⁷.

Sunday, May 8, 2022		
<u>Time</u>	<u>Event</u>	<u>Source</u>
--	Driver off duty	Employee records
5:00 a.m.	Driver woke up	Driver interview
7:10 a.m.	First cell phone call of the day	Cell Phone Records
7:17 p.m.	Last cell phone call of the day	Cell Phone Records
8:00 p.m.	Driver went to bed	Driver interview
Monday, May 9, 2022		
--	Driver off duty	Employee records
5:00 a.m.	Driver woke up	Driver interview
8:37 a.m.	First cell phone call of the day	Cell Phone Records
6:21 p.m.	Last cell phone call of the day	Cell Phone Records
8:00 p.m.	Driver went to bed	Driver interview

⁴ For more information on the carrier's training program, see the *Motor Carrier Factual Report* for this investigation.

⁵ Human Performance Attachment - Truck Driver's Interview Transcription

⁶ Human Performance Attachment - Truck Driver's Time and Attendance Records

⁷ Human Performance Attachment - Truck Driver's Cell Phone Records

Tuesday, May 10, 2022		
5:00 a.m.	Driver woke up	Driver interview
6:30 a.m.	Driver began working	Employee records
11:12 a.m.	First cell phone call of the day	Cell Phone Records
4:23 p.m.	Last cell phone call of the day	Cell Phone Records
5:00 p.m.	Driver went off duty	Employee records
9:00 p.m.	Driver went to bed	Driver interview
Wednesday, May 11, 2022 ⁸		
5:00 a.m.	Driver woke up	Driver interview
6:30 a.m.	Driver went on duty	Employee records
8:16 a.m.	Crash Occurred	Police Records

1.3 Sleep Factors

According to the truck driver, he generally sleeps well. He does not take any medications to fall asleep and has not been diagnosed with any sleep disorders. The driver typically works during the day and sleeps at night; he wakes up around 5:00 a.m. and goes to bed between 8:00 - 9:00 p.m.

In the 72-hour period immediately prior to the crash, the driver had about an 8-hour opportunity for rest each night. The truck driver's cell phone records indicate that he did not use his cell phone's native applications for texts or calls during periods that he stated he was asleep.

1.4 Medical Factors

Information about the truck driver's health was obtained from an interview with the driver and his most recent CDL medical examination.

1.4.1 Medical Examination Report for Commercial Motor Vehicle Driver Fitness Determination (CDL Medical Exam)

Commercial drivers in the United States are required by Federal Motor Carrier Safety Regulations (FMCSRs) to be medically certified as being physically qualified to drive a commercial vehicle. These examinations may result in one of four outcomes with respect to medical qualification:

- The driver is found to meet the standards in 49 Code of Federal Regulations (CFR) §391.41 and is given a 2-year certificate.
- The driver is found to meet the standards, but requires periodic evaluation for one or more conditions and is qualified for 3 months, 6 months, or 1 year;

⁸ There were no cell phone calls reported on May 11, 2022.

- The driver is temporarily disqualified due to a condition or medication; or;
- The driver is found not to meet the standards.

The truck driver's most recent CDL medical examination was performed by a physician at an occupational health practice on July 23, 2020, in Elk Grove Village, IL. During the exam, the physician noted significant health issues; the driver was not given medical certification. For more information on the pickup truck driver's health, see the *Medical Factors Factual Report* for this investigation.

2.0 Witness Statements

2.1.1 Truck Driver Statement

The truck driver was interviewed at the carrier's base in La Grange Park, IL on May 13, 2022.⁹ The truck driver stated that he began working at about 6:30 a.m. on the day of the crash. After performing a pre-trip inspection of the crash truck, he left the carrier's base and fueled the vehicle. He stated that the truck engine started normally when he began working and after refueling. While driving, before and after fueling, he did not observe that the truck operated unusually.

On the approach to the grade crossing where the crash occurred, the driver did not notice anything unusual. As he traversed the crossing, the engine suddenly cut off. He stepped on the foot brake, depressed the clutch but the engine would not start. When he turned the key, the engine did not make any sound. He set the parking brake and continued to try and start the engine. When he observed the train approaching, he and the passengers got out of the vehicle.

The truck driver stated that he was not permanently assigned to a truck but that he had driven the crash truck many times. He had not experienced a similar problem with the crash truck.

2.1.2 Truck Passenger Statement

A passenger that was in the truck moments before the crash was interviewed at the carrier's base in La Grange Park, IL on May 13, 2022.¹⁰ The passenger began working at 7:00 a.m. on the day of the crash. He left the carrier's base when the truck driver went to fuel the vehicle; he was seated between the driver and another passenger. He observed that the engine started normally both when leaving the carrier base and after fueling.

⁹ Human Performance Attachment - Truck Driver Interview Transcription

¹⁰ Human Performance Attachment - Truck Passenger Interview Transcription

The passenger observed that while approaching the grade crossing, the truck operated normally. He felt the truck hit a bump as it traversed the crossing which caused the engine to cut off. When the truck driver tried to restart the engine, he first tried it while the transmission was in gear, and again in neutral. He stated that when the truck driver tried to re-start the engine, the engine made no noise, but the commercial radio was still playing. After being unable to start the engine, all the occupants got out of the truck.

3.0 Environmental Factors

Global Positioning System (GPS) coordinates of the crash scene were used to determine environmental conditions near the time of the crash:

Latitude: 41°47'49.22"N
Longitude: 87°57'16.61"W

3.1 Weather Data

Historical weather data from the Bodrozic Garden National Weather Service (KILCLARE22), located about a half mile from the crash site, were used to document meteorological conditions. Observations for May 11, 2022, near the time of the cash are shown below in **Table 2**.¹¹

Time (CDT)	8:29 a.m.	8:34 a.m.
Temperature	78.7° F	79.3° F
Dew Point	71.8° F	72.2° F
Humidity	70%	79%
Wind Direction	SW	SW
Wind Speed	0.5 mph	0.4 mph
Wind Gust Speed	1.5 mph	1.4 mph
Precip. Rate	0.00 in.	0.00 in.
Conditions	Clear	Clear

11

3.2 Astronomical Data for May 11, 2022

Using the GPS Coordinates listed above, astronomical data for the crash site and date was obtained from the United States Naval Observatory (USNO). The astronomical data is summarized in **Table 3** below.

Event	Time
CRASH	8:16 a.m.
Begin civil twilight ¹²	5:05 a.m.
Sunrise	5:36 a.m.
Sun Transit	12:48 p.m.
Sunset	8:01 p.m.
End civil twilight	8:33 p.m.
Moon Set	3:31 a.m.
Moon Rise	9:31 p.m.

E. DOCKET MATERIAL

The following human performance attachments are included in the docket for this investigation:

Human Performance Attachment – Truck Driver’s License History

Human Performance Attachment – Truck Driver’s Interview Transcription

Human Performance Attachment – Truck Driver’s Time and Attendance Records

Human Performance Attachment – Truck Driver’s Cell Phone Records

Human Performance Attachment – Truck Passenger Interview Transcription

End of Report

Submitted by:

Kenneth Bragg
Senior Human Performance Investigator

¹² Morning civil twilight begins when the geometric center of the sun is 6 degrees below the horizon and ends at sunrise.